भारतीय मानक
Indian Standard

IS 16286 : 2014
(Amalgamating IS 990 and IS 991)

(Reaffirmed 2020)

चम्मच — विशिष्टि

Spoons — Specification

ICS 97.040.60

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भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS
मानक भवन, 9 बहादुरशाह ज़फर मार्ग, नई दिल्ली–110002
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI-110002
www.bis.org.in www.standardsbis.in

October 2014 **Price Group 4**

Utensils, Cutlery Domestic Hardware Sectional Committee, MED 33

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Utensils, Cutlery Domestic Hardware Sectional Committee had been approved by the Mechanical Engineering Division Council.

In this standard the material has been modified keeping in view the availability of the indigenous materials and certain other changes which would help in implementing the Indian Standard in a better way.

This standard has been formulated by amalgamating IS 990 : 1982 'Spoons, stainless steel' and IS 991 : 1964 'Spoons, brass and nickel silver'. All these standards would be withdrawn after publication of this standard.

The composition of Committee responsible for the formulation of this standard is given in Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard
SPOONS — SPECIFICATION

1 SCOPE

This standard covers the requirements for the following types of spoons made from stainless steel and nickel silver plated with brass as a parent material with or without plastic handle:

a) Serving spoons, large;
b) Table/serving spoon;
c) Dessert spoon;
d) Tea spoon, large or Baby spoon;
e) Tea spoon, small;
f) Coffee spoon;
g) Soup spoon;
h) Mustard spoon; and
j) Salt spoon.

2 REFERENCES

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

IS No.	*Title*
422 : 2006	Brass sheet and strip for the manufacture of utensils — Specification (*second revision*)
695 : 2008	Acetic acid — Specification
1067 : 2010	Electroplated coatings of silver for decorative and protective purposes (*second revision*)
1070 : 1992	Reagent grade water
1959 : 2010	Silver anodes for electroplating — Specification (*second revision*)
4170 : 2006	Brass rods for general engineering purposes
4408 : 2010	Sodium chloride, analytical reagent
6911 : 2009	Stainless steel plate, sheet and strip (*first revision*)
15997 : 2012	Low nickel austenitic stainless steel sheet and strip for utensils and kitchen appliances — Specification

3 MATERIAL

Material for spoon shall be as under.

3.1 SS 304 (*see* IS 6911), grades of IS 15997 or any food grade stainless steel.

3.2 Brass as parent material (*see* IS 422) and plated with pure silver (as per IS 1959).

3.3 Plastic handle shall be free from deleterious substances, resist the action of diluted organic acids and should not be inflammable as to burst into flames when a lightened match is applied to it.

4 SHAPES AND DIMENSIONS

4.1 The spoons shall be manufactured in one piece either with solid handle forged or cast or pressed into shape. The spoons may be manufactured also with plastics handle. The design of the handles of spoon shall be as agreed to between the manufacturer and the purchaser. When spoons, forks and knives are required to be supplied in sets, the design on the handles and general appearance of the item in a set shall match.

4.2 The spoon shall conform to shapes and dimensions given in **4.3** to **4.6**, however the detailed specifications are left to the discretion of manufacturers and are subject to the agreement with the purchaser.

4.3 Serving Spoon Large, Table/Serving Spoon, Desert Spoon, Tea Spoon Large or Baby Spoon, Tea Spoon Small and Coffee Spoon (*see* Fig. 1)

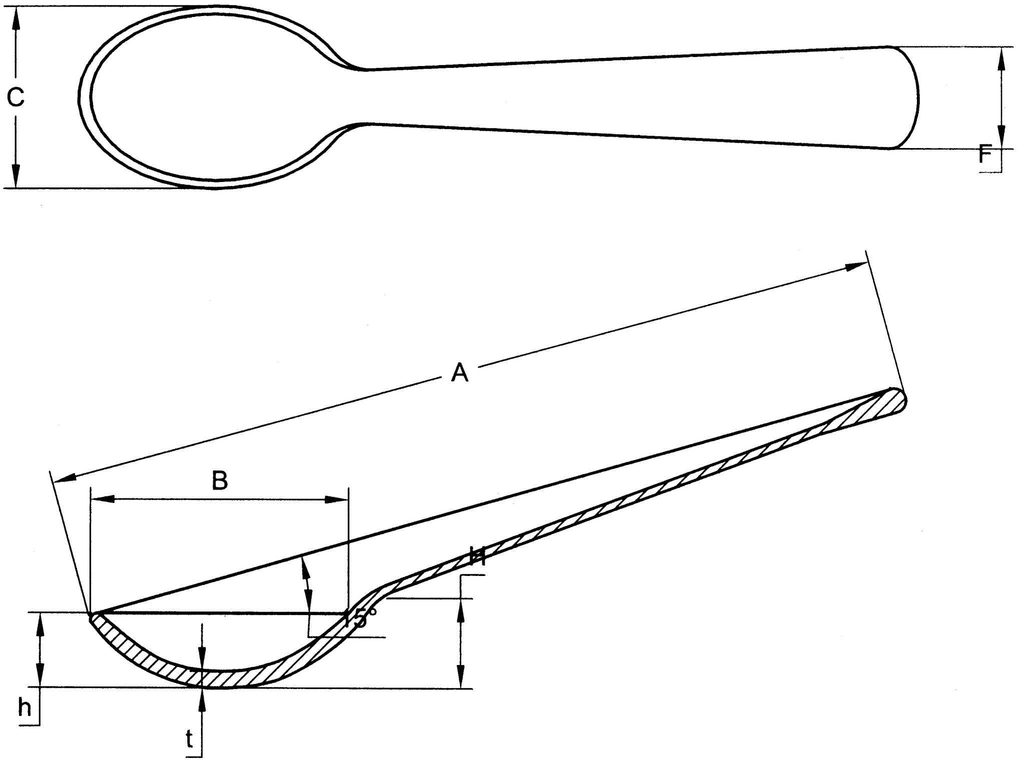
4.4 Soup Spoon (*see* Fig. 2)

4.5 Mustard Spoon (*see* Fig. 3)

4.6 Salt Spoon (*see* Fig. 4)

4.7 Dimensional Tolerances

Dimensions (see Fig. 1)	*Permissible Tolerance*
Total length (*A*)	± 3.00 mm
Length of the cup (*B*)	± 1.50 mm
Width of the cup (*C*)	± 1.50 mm
Height / depth of the cup (*h*)	± 0.80 mm
Width of the handle (*F*)	± 0.80 mm
Height of the neck bend from cup bottom (*H*)	± 0.80 mm
Thickness of the cup (*t*)	+ 0.20 mm
	- 0.00 mm



Size	A	B	C	h	F	H	t	
							Pressed Type	Forged Type
Serving Spoon, Large	275.00	90.00	60.00	20.00	28.00	20.00	1.60	1.25
Serving Spoon, Small	210.00	70.00	45.00	15.00	18.00	18.00	1.5	0.80
Desert Spoon	180.00	62.00	40.00	11.00	16.00	15.00	1.5	1.00
Tea Spoon, Large or Baby Spoon	160.00	55.00	40.00	10.5	16.00	15.00	1.5	1.00
Tea Spoon, Small	135.00	50.00	32.00	10.00	13.0C	13.00	1.00	0.80
Coffee Spoon	110.00	40.00	26.00	8.00	11.00	10.00	1.00	0.80

All dimensions in millimetres.

FIG. 1 SERVING, DESERT, TEA OR BABY AND COFFEE SPOON

5 MANUFACTURE, WORKMANSHIP AND FINISH

5.1 Manufacture

The spoons shall be forged and/or pressed to shape in one piece. Spoons shall be free from burrs, seams, cracks and other manufacturing defects. All edges shall be well rounded.

5.2 Workmanship

The forged spoon shall have a solid handle and the pressed spoon shall have pressed handle. The pressed handle may be suitably radiused to provide necessary stiffness. The handle and the bowl shall be in proper alignment. The spoons shall be finished smooth and polished bright all over. Silver plating shall conform to IS 1067.

5.3 Finish

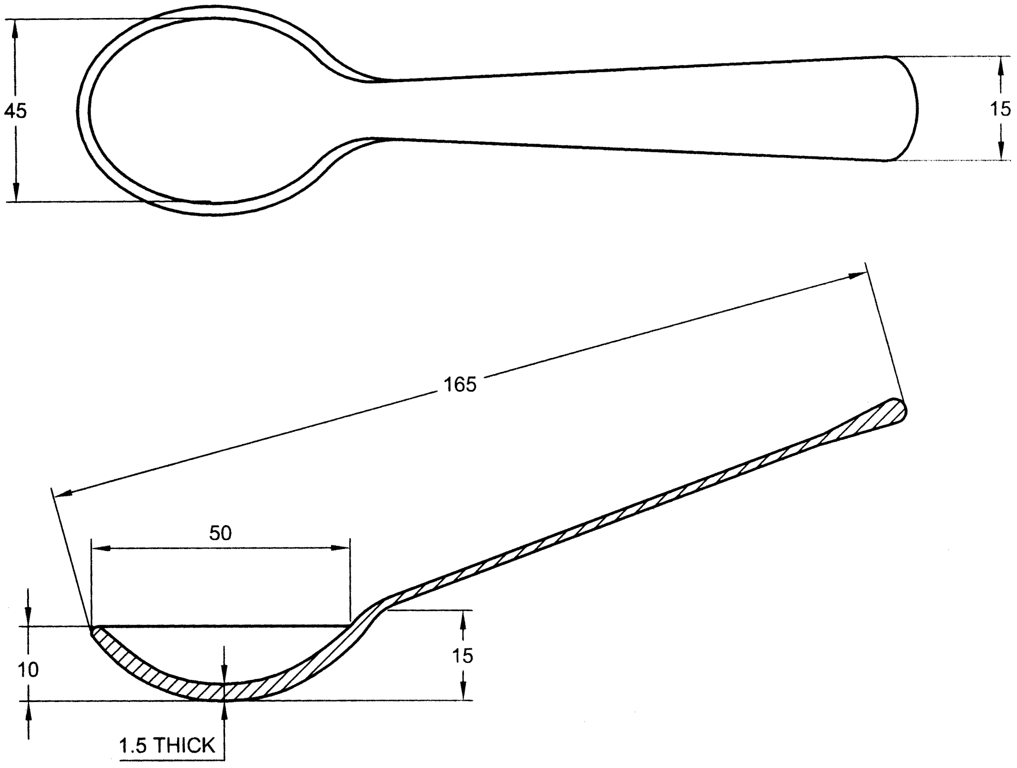
5.3.1 The finishing of the spoon shall be mirror all over.

5.3.2 The nickel silver spoons are made as per **3.2**. Nickel is plated on the brass up to 15 microns thickness which acts as bonding with parent metal brass and the silver. Silver is plated on the nickel base which gives better bonding effect. Plating thickness of the silver shall be minimum 40 micron. Purity of silver shall not be less than 99.0 percent. Effective anti-tarnishing process shall be used after silver plating to avoid oxidation of silver used for better life or the plating shall conform to IS 1067.

6 TESTS

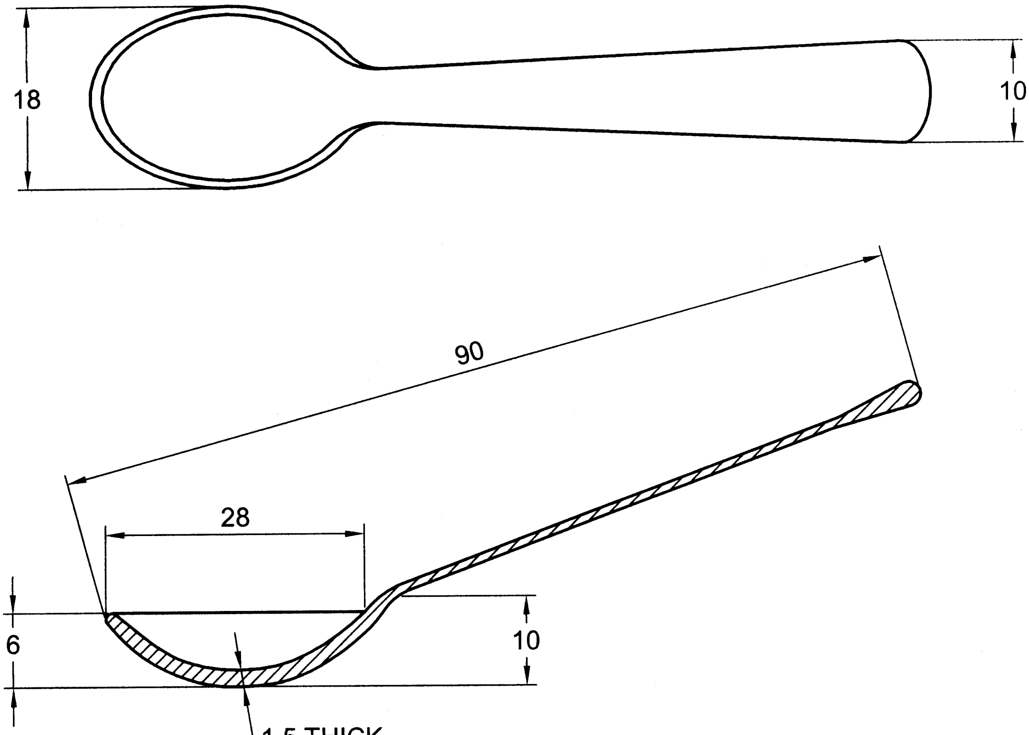
6.1 Staining Test

The surface of spoon shall be thoroughly washed with hot soapy water. Thoroughly rinse and then degrease



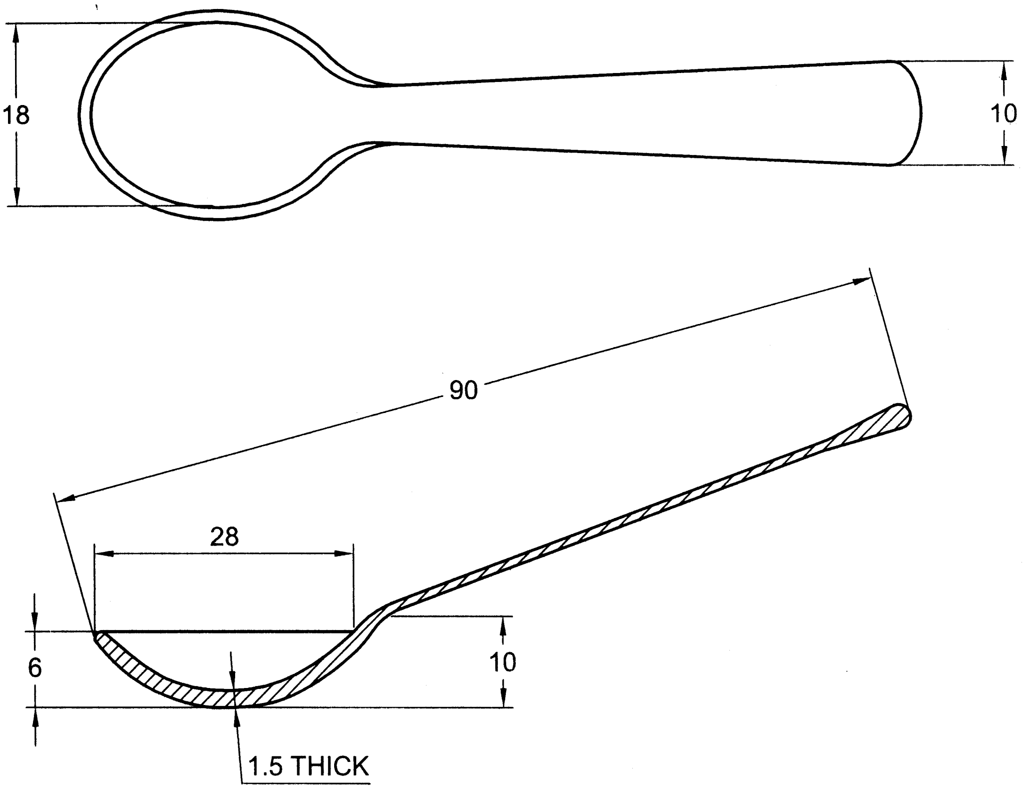
All dimensions in millimetres.

FIG. 2 SOUP SPOON



All dimensions in millimetres.

FIG. 3 MUSTARD SPOON



All dimensions in millimetres.

FIG. 4 SALT SPOON

the test specimen in acetone or methyleted spirit, then wiped with soft cloth. The spoon, when dipped for 16 h in each of the following solutions, shall not show any sign of staining after removal from each solution at the end of above period:

a) Ten gram of glacial acetic acid (99 percent) conforming to IS 695 dissolved in distilled water conforming to IS 1070 to make 100 ml, and
b) Five gram of pure sodium chloride conforming to IS 4408 dissolved in distilled water to make 100 ml.

6.2 Bending Test

The spoon shall be clamped at the middle of the handle in a vice. It shall be bent around a mandrel (having diameter equal to 2 × thickness of the handle approximately) through 180° over the handle. There shall be no cracking or breakage.

6.3 Load Test

The spoon shall be held tightly from its handle end and supported in the middle of the length in such a way that the handle is approximately horizontal. *A* load of 25 N (2.5 kgf) in case of forged handle, pressed handle (radiused) and 15 N (1.5 kgf) in case of pressed handle (flat) shall then be applied by the extreme end of the bowl for 2 min, and then removed. There shall not be a permanent set of more than 1 mm.

6.4 Tests for Spoons with Plastic Handles

6.4.1 *Boiling*

The spoon shall be immersed for 1 h in a boiling 5 percent soap solution, then rinsed immediately in water at 15°C to 20°C and then dried for an hour in an oven maintained at 60°C. This procedure shall be repeated four times. On completion of test, the handle shall not show any sign of cracking, chipping or discolouring of the plastics and the tang shall neither become loose nor shall there be any damage.

6.4.2 *Impact*

This test shall be conducted after the boiling test. The spoon shall be held with the handle facing downwards and dropped from a height of 1.2 m on to a concrete floor or a flat stone five times in succession. The handle shall not show any sign of cracking, breaking or chipping of the plastics and tang shall neither become loose nor shall there be any damage.

6.4.3 *Staining*

6.4.3.1 The plastics handle shall be cut into three pieces and each piece shall be immersed in one of the following solutions maintained at room temperature:

a) Sodium chloride solution, 10 percent (*w*/*v*);
b) Acetic acid solution, 5 percent (*v*/*v*); and
c) Sodium carbonate solution, 2 percent (*w*/*v*).

6.4.3.2 Each piece shall be taken out after 24 h, rinsed with tap water and wiped with a dry cloth. It shall then be examined and immersed again in the same solution. This process shall be repeated seven times. During and at the end of seven days test there shall be no perceptible change in the appearance of the plastic material.

7 SAMPLING

The number of spoons to be selected from a lot for ascertaining conformity to this standard shall be as agreed to between the manufacturer and the purchaser. A suitable sampling scheme and criteria for conformity for forks is given in Table 1.

7.1 Lot

In any consignment, all the spoons of the same type of handle, shape and size, manufactured from the same material under relatively similar conditions of manufacture shall be grouped together to constitute a lot.

7.2 The number of spoons to be selected from a lot for ascertaining conformity to the requirements of the specifications shall be according to col 2 of Table 1. The spoons in the sample shall be selected at random from the lot. If the spoons are packed in cartons, as a first step at least 25 percent of the cartons, shall be selected at random and then from each selected carton, equal number of spoons be taken out at random so as to make the required sample size.

7.3 Number of Tests and Criteria for Conformity

7.3.1 The spoons selected at random according to **7.2** shall be examined for the requirements of **4** and **5**. A spoon failing to satisfy any one or more of these requirements shall be regarded as defective. The lot shall be considered as conformity to the requirements of **4** and **5**, if the number of defective spoons in the sample does not exceed the number given in col 3 of Table 1.

7.3.2 If the lot conforms to the requirements of **7.3.1**, a sub-sample of size given in col 4 of Table 1 shall be taken from the spoons selected as in **7.2**. Each of spoon in the sub-sample shall be tested for the requirements as in **6**. A spoon not satisfying any one or more of the requirements as in **6** shall be regarded as defective. The sample shall be considered to conform to the requirements as in **6** if number of defectives in sub-sample does not exceed the numbers given in col 5 of Table 1.

8 MARKING

8.1 Each fork shall be legibly marked with the following on underside of the handle preferably by engraving or etching:

a) Type of spoon;
b) Material of spoon;
c) Material grade;
d) Type of handle;
e) Manufacturer's name, initials or registered trade-mark;
f) Made in India; and
g) Batch No. / Date of manufacturing if desired by the purchaser.

Example: Tea/ SS / 304 / Plastic / XX Pvt Ltd / Made in India / YYY

8.2 BIS Certification Marking

8.2.1 Each spoon may be also be marked with the Standard Mark.

8.2.2 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act*, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the license for

Table 1 Sampling Size and Criteria for Conformity

(*Clauses* 7.2, 7.3.1 *and* 7.3.2)

No. of Spoons in a Lot	**For Clause 4 and 5**		**For Clause 6**	
	Sample Size	Acceptance Number	Sub-Sample Size	Acceptance Number
(1)	(2)	(3)	(4)	(5)
Up to 50	5	0	2	0
51 to 150	13	1	4	0
151 to 500	32	3	6	0
501 to 1 000	50	5	8	0
1 001 to 3 000	80	7	12	1
3 001 to 10 000	125	10	16	1
10 001 and above	200	14	20	2

the use of the Standard Mark may be granted to manufacturers or producers, may be obtained from the Bureau of Indian Standards.

9 PACKING

The spoons shall be wrapped in soft tissue paper or wax paper and packed in cartons. The number of spoons to be packed in one carton shall be at the discretion of the manufacturer. The cartons shall bear the type and number of spoons packed, batch-number, the name of the manufacturer and the country of manufacturer.

ANNEX B

(*Foreword*)

COMMITTEE COMPOSITION

Utensils Cutlery and Domestic Hardware Sectional Committee, MED 33

Organization	*Representative (s)*
Ministry of Micro Small and Medium Enterprises, New Delhi	Shri Niranjan Naik (***Chairman***) Shri K. L. Rao (Alternate)
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Federation of Consumer Organization, Thiruchirapalli	Shrimati S. Shakuntala
Federation of Hardware Manufacturing and Traders Welfare Association, Gurgaon	Shri Ajay Bhasin Shri Rajesh Bansal (*Alternate*)
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MSME Testing Centre, New Delhi	Shri S. K. Srivastava Shri A. K. Mukherjee (*Alternate)*
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BIS Directorate General	Shri T. V. Singh, Scientist 'F' & Head (MED) [Representing Director General (*Ex-officio)*]

Member Secretary
Shri Chandan Gupta
Scientist 'B' (MED), BIS

Bureau of Indian Standards

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Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Catalogue' and 'Standards : Monthly Additions'.

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002
Telephones : 2323 0131, 2323 3375, 2323 9402 *Website*: www.bis.org.in

Regional Offices:		*Telephones*
Central	Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110002	2323 7617 2323 3841
Eastern	1/14 C.I.T. Scheme VII M, V. I. P. Road, Kankurgachi KOLKATA 700054	2337 8499, 2337 8561 2337 8626, 2337 9120
Northern	SCO 335-336, Sector 34-A, CHANDIGARH 160022	260 3843 260 9285
Southern	C.I.T. Campus, IV Cross Road, CHENNAI 600113	2254 1216, 2254 1442 2254 2519, 2254 2315
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